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EXAMINER

PATEL, ASHOKKUMAR B

ART UNIT PAPER NUMBER

2154

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/653,073

Applicant(s)

HLASNY, DARYL

Examiner

Ashok B. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) 21 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-20 and 22-24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-24 are subject to examination. Claim 21 has been cancelled.

#### *Response to Arguments*

2. Applicant's arguments filed 11/14/2005 have been fully considered but they are not persuasive for the following reasons:

#### **Applicant's argument:**

"Birdwell does not contemplate an unsuccessful broadcast attempt to a client powered "on" nor does Birdwell contemplate estimating a time to complete transferring updates to all clients because Birdwell, by assuming that any initial unsuccessful transfer must be the result of either a client powered "off" or not connected to the server, has no way of knowing or estimating when either of those situations will be remedied, i.e. when a client will log onto the server or be powered "on. " Therefore, the disclosure by **Birdwell of basing the decision on whether to broadcast or deliver by point-to-point-communication on "transmission characteristics" such as "transmission speed" or "cost of transmission" should not be read as comparing estimated times** to achieve successful transfer to all clients to be updated by broadcast and point-to-point transmission, respectively. Instead, "transmission speed" at most, must refer to the rate of transmission for each method of transfer per attempt, and "cost" must refer to the monetary cost of each broadcast attempt. **Birdwell does not disclose that any individual decision to either broadcast or deliver by point-to-point transmission be based upon a forecast of either the time, or number of attempts,**

**it will take to update all clients, but rather the time and cost of completing only the particular attempt for which the decision is being made."**

"Hence Birdwell cannot disclose any means by which this relationship may be measured so as to then "complete said transferring of said unreceived data by point-to-point communication."

**Examiner's response:**

**Birdwell teaches** in col. 3, line 25-39," In a preferred **opportunistic broadcasting system of the present invention**, the server computer system (server) receives a request from a client computer system (client) to download data from the server to the client computer system. The data is not only to be downloaded to the requesting client, but also to other clients who have not yet requested the data. The server may have received the data from a provider of data (e.g., contents of magazine) and a list of clients that are to receive the data. Alternatively, a client may have provided the data (e.g., electronic mail) that is to be sent to a list of clients. Also, the server may receive requests from many clients to download the same data. The server may group these multiple requests into a single download request that is to be downloaded to all the requesting clients."

Birdwell further defines "opportunistic broadcasting system" in col. 3, line 57-60 as being, "Thus, the **opportunistic broadcasting system** of the present invention **selects the more efficient form of transmission** based on the transmission characteristics." in reference to "The server uses these transmission characteristics to

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determine whether to transmit the data **through the broadcast mechanism or through the point-to-point connection.**" In the same column, line 47-49.

Thus, Birdwell teaches the limitation of claim 1, "broadcasting unreceived data to said plurality of recipients at a time when each said plurality of recipients is capable of receiving said data point-to-point communication".

Birdwell, not only teaches "basing the decision on whether to broadcast or deliver by point-to-point-communication on "transmission characteristics" such as "transmission speed" or "cost of transmission" to achieve successful transfer to all clients to be updated by broadcast and point-to-point transmission, respectively as Applicant indicated, but as it is evident from Birdwell's teaching in col. 3, line 43-47, "For example, the **transmission characteristics may include** transmission speed, cost of transmission, **availability of the bandwidth for the transmission, and number of clients to whom the data is to be sent.**

Now, Birdwell elaborates on the availability of the bandwidth in col. 11, line 22-42," In one embodiment of the present invention, certain transmission characteristics of a broadcast transmission are estimated based on bandwidth that was unused in a previous time interval. For example, if 10K bytes per second of bandwidth was unused on average in the last 10 seconds and a request for transmission characteristics specifies an 1M byte transmission, **then the time of transmission is estimated as 100 seconds (i.e., 1M bytes/10K bytes per second).** Other transmission characteristics may be based on cost. For example, a request for transmission may indicate that the transmission is to occur during non-prime time or during prime time. **The transmission**

**characteristics of the point-to-point connection can be determined in an analogous manner.** For example, if the point-to-point connection is a 14K baud phone line, **then an 1M byte transmission may take approximately 570 seconds** (i.e., 1M byte \* 8 bits per byte/14K bits per second). Similar costs would apply to prime and non-prime time point-to-point transmissions. Once the transmission characteristics are received, the server FTC determines the more efficient way to transmit the data.”

Additionally, Birdwell teaches in col. 4, line 8-17,” To download the data again, the server again determines whether to transmit the data through point-to-point connection or through the broadcast mechanism. The server computer system makes this determination based on the transmission characteristics and the number of identified clients who have not yet confirmed receipt of the downloaded data.” Thus **Birdwell does disclose that any individual decision to either broadcast or deliver by point-to-point transmission be based upon a forecast of either the time, or number of attempts.**

And thus, Birdwell also teaches” (b) repeating step (a) until a time for the completion of transferring said unreceived data by point-to-point communication with said recipients obtains a predetermined relationship to a time for the completion of said broadcasting; and, (c) thereafter, completing said transferring of said unreceived data by point-to- point communication with at least one of said plurality of recipients.

**Applicant’s argument:**

"The Examiner rejected claims 6-8, 11, 12, 16-20, and 20-24.....First, the Examiner's obviousness rejection of each of these claims depends on the Examiner's misinterpretation of Birdwell, previously discussed."

**Examiner's response:**

Please refer to the response for claim 1 provided above.

***Claim Rejections - 35 USC § 102***

**3.** The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**4.** Claims 1-5, 10, 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Birdwell et al. (hereinafter Birdwell) (US 5, 793, 973).

**Referring to claim 1,**

Birdwell teaches a method of transferring data from a distributor to a plurality of recipients (Figs. 1 and 2) comprising the steps of:

(a) broadcasting unreceived data to said plurality of recipients at a time when each said plurality of recipients is capable of receiving said data point-to-point communication (col. 3, , line 25-39 and line 47-49);

(b) repeating step (a) until a time for the completion of transferring said unreceived data by point-to-point communication with said recipients obtains a predetermined relationship to a time for the completion of said broadcasting; and,

(c) thereafter, completing said transferring of said unreceived data by point-to-

point communication with at least one of said plurality of recipients. (col. 3, line 61 through col. 4, line 17).

**Referring to claim 2,**

Birdwell teaches the method of claim 1 wherein the step of repeating said broadcasting of unreceived data until a time for transferring said unreceived data by point-to-point communication with said recipients obtains a predetermined relationship to a time for said broadcasting comprises the steps of:

- (a) estimating a time to transfer said unreceived data by point-to-point communication with said recipients (col. 3, line 39-43), and
- (b) repeating said broadcasting of unreceived data if said time to transfer said unreceived data by point-to-point communication is greater than said time to broadcast said data. (col. 11, line 22-44)

**Referring to claim 3,**

Birdwell teaches the method of claim 2 wherein the step of estimating a time to transfer said unreceived data by point-to-point communication with said recipients comprises the steps of: (a) polling at least one recipient to identify for data unreceived by said recipient; (b) estimating a time to successfully transfer said unreceived data to said recipient by point-to-point communication; and (c) summing said estimated times to successfully transfer said unreceived data to recipients reporting unreceived data. (col. 2, line 66 through col. 3, line 14, col. 3, line 39-47)

**Referring to claim 4,**



Birdwell teaches the data transfer method of claim 1 wherein the step of repeating broadcast of said unreceived data until a time for transferring said unreceived data by point-to-point communication with said recipients obtains a predetermined relationship to a time for said broadcasting comprises the steps of:

(a) estimating a time to transfer said unreceived said data by point-to-point communication with said recipients, (col. 2, line 66 through col. 3, line 14, col. 3, line 39-47)

(b) estimating remaining unreceived data following an additional broadcast of said data (col. 3, line 61 through col. 4, line 17); and

(c) rebroadcasting said unreceived data if said time to transfer said unreceived data by point-to-point communication with said recipients is greater than a sum of said time to broadcast said data and a time to transfer said remaining said unreceived data by point-to-point communication (col. 3, line 61 through col. 4, line 17).

**Referring to claim 5,**

Birdwell teaches the method of claim 4 wherein the step of estimating a time to transfer said unreceived data by point-to-point communication with said recipients comprises the steps of:

(a) polling at least one recipient to identify unreceived data for said recipient; (b) estimating a time to successfully transfer said unreceived data to said recipient by point to point communication; and (c) summing said estimated times to successfully transfer said unreceived data to recipients reporting unreceived data. (col. 2, line 66 through col. 3, line 14, col. 3, line 39-47).

**Referring to claim 10,**

Birdwell teaches a method of transferring data from a data distributor to a plurality of data recipients (Figs 1 and 2) comprising the steps of:

- (a) broadcasting unreceived data to said plurality of recipients (col. 3, line 47-49);
- (b) polling at least one said recipient to identify unreceived data;
- (c) estimating a time for the completion of transferring said unreceived data to said plurality of recipients by point-to-point communication with said recipients (col. 3, line 39-43),
- (d) repeating steps (a) through (c) until said point-to-point communication time achieves a predetermined relationship to a time required for the completion of transferring said unreceived data to said plurality of recipients by broadcasting t said data (col. 11, line 22-44, (col. 3, line 61 through col. 4, line 17); and,
- (f) thereafter, completing said transferring of said unreceived data by point-to-point communication with said plurality of recipients (col. 3, line 61 through col. 4, line 17).

**Referring to claim 13,**

Birdwell teaches the method of claim 10 wherein the step of repeating said broadcasting of said unreceived data until said time to transfer said unreceived data by point-to-point communication with said recipients achieves a predetermined relationship to said time for said broadcasting comprises the steps of:

- (a) determining a time to transfer said unreceived data by point-to-point communication with each said recipient (col. 2, line 65 – col. 3, line 10),

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(b) estimating remaining unreceived data to be transferred after an additional broadcast of said data; and (c) broadcasting said unreceived data again if said time to transfer said unreceived data by point-to-point communication with said recipients is greater than a sum of said time to broadcast said data and a time to transfer said estimated remaining unreceived data by point-to-point communication. (col. 3, line 61-col. 4, line 17)

**Referring to claim 14,**

Birdwell teaches the data transfer method of claim 10 wherein the step of repeating said broadcasting of said unreceived data until a time for transferring said unreceived data by point-to-point communication with said recipients achieves a predetermined relationship to a time for said data broadcasting comprises the steps of:

(a) determining a time to transfer said unreceived data by point-to-point communication with each recipient (col. 2, line 65 – col. 3, line 10),, and  
(b) repeating said data broadcasting if said time to transfer said unreceived data by point-to-point communication is greater than said time to broadcast said data. (col. 3, line 61-col. 4, line 17)

**Referring to claim 15,**

Birdwell teaches the method of claim 10 further comprising the step of transmitting said unreceived data by point-to-point communication following a predetermined number of broadcasts of said data. (col. 2, line 65 – col. 3, line 10)

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-8, 11, 12, 16-20, 22-24 are rejected under 35 U.S.C. 103(a) as being Unpatentable over Birdwell et al. (hereinafter Birdwell) (US 5, 793, 973) in view of Iwamura et al. (hereinafter Iwamura) ( US 6, 396, 814).

**Referring to claim 6,**

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients (Figs 1 and 2) comprising the steps of:

(b) broadcasting unreceived data units to said recipients(col. 3, line 47-49);  
(d) polling at least one said recipient to identify data units not successfully received by said polled ones of said plurality of recipients; and (e) transferring said unreceived data units by point-to-point communication. (col. 3, line 61 through col. 4, line 17).

Birdwell fails to teach (a) designating a representative recipient; (c) repeating step (b) until said representative acknowledges successful receipt of said plurality of data units.

Iwamura teaches the communication network construction method (a) designating a representative recipient (col.14, lines 32-40); and (c) repeating step (b)

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until said representative acknowledges successful receipt of said plurality of data units (col.14, lines 43-45).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claims 7 and 8,**

Keeping in mind the teachings of Birdwell as stated above, Birdwell teaches (a) broadcasting a plurality of data units to said recipients (col. 3, line 47-49); (b) polling at least one said recipient to establish success in receiving said data units; and (b) polling a recipient following a broadcast of said data units to identify said unreceived data units for said polled recipient; (c) repeating step (b) for a plurality of recipients; (col. 3, line 61 through col. 4, line 17).

Birdwell fails to teach (c) designating as said representative said recipient having said success most representative of said success of said plurality of recipients, and (d)

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designating as said representative a recipient reporting unreceived data most representative of that reported by said polled ones of said plurality of recipients.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative

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devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 9,**

Birdwell teaches the method of claim 6 further comprising the steps of: (a) a first recipient reporting success in receiving said data units from said first broadcast; and (b) another recipient reporting success in receiving said data units from another broadcast. (col. 3, line 61 through col. 4, line 17).

**Referring to claim 11,**

Birdwell teaches the method of claim 10 wherein the step of polling at least one recipient following a broadcast of said data to identify said unreceived data comprises the (col. 3, line 61-col. 4, line 17) steps of:

(a) polling a plurality of said recipients following a broadcast of said data to identify said unreceived data for each said polled recipient (col. 3, line 61-col. 4, line 17).

Birdwell fails to teach (b) identifying a representative recipient reporting said unreceived data most representative of said unreceived data reported by all polled recipients; and (c) said representative recipient reporting the identify said unreceived data on behalf of all said recipients following a subsequent broadcast.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management



information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 12,**

Birdwell teaches the method of claim 10 wherein the step of polling at least one recipient following a broadcast of said data to identify said unreceived data comprises the steps of: (a) polling a first recipient following a broadcast to identify said unreceived data for said polled first recipient;(b) polling a second recipient following another broadcast of said data to identify said unreceived data for said polled second recipient; (c) repeating step (b) for ell a plurality of polled second recipients (col. 3, line 61- col. 4, line 17)

Birdwell fails to teach (d) identifying a representative second recipient reporting unreceived data most representative of said unreceived data reported by said plurality of polled second recipients; and, (e) thereafter, said representative second recipient reporting said unreceived data for said plurality of data recipients following a broadcast of said data.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point",

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lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 16,**

Birdwell teaches a method of transferring data from a data distributor to a plurality of data recipients (Figs. 1 and 2) comprising the steps of:

- (a) broadcasting unreceived data to said recipients (col. 3, line 47-49);
- (b) polling said recipients to identify unreceived data (col. 3, line 60-col. 4, line 17);
- (d) estimating a time for transferring unreceived data to said plurality of recipients by point-to-point communication with each recipient;(col. 2, line 65-col. 3, line 10)
- (e)rebroadcasting said data to said recipients if said estimated time to transfer said unreceived data by point-to-point communication is less than a time required to broadcast said data; (col. 3, line 25-59)
- (g) repeating steps (c), (d), and (e) until said estimated time to transfer said unreceived data by point-to-point communication is less than a time required to broadcast said data; and (h) thereafter transferring said unreceived data by point-to-point communication with said data recipients.(col. 3, line 60-col. 4, line 17)

Birdwell fails to teach (c) identifying a representative recipient reporting unreceived data most representative of said unreceived data reported by said polled data recipients', (f) polling said representative to identify said unreceived data.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col. 14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the

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graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 17,**

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients (figs 1 and 2) comprising the steps of:

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(a) broadcasting a plurality of data units to said recipients (col. 3, line 47-49);  
(b) polling at least one said recipient to establish success in receiving said data units; (c) comparing said success of at least two recipients, (Fig. 2, col. 6 line 12-col. 7, line 30); (e) broadcasting data units to said recipients; (g) polling at least one said recipient to identify data units not successfully received by said recipient', and, (h) thereafter, transferring said unreceived data units to said recipient by point-to-point communication. (col. 3, line 25-59, col. 3, line 60-col. 4, line 17)

Birdwell fails to teach (d) designating as a representative said recipient having said success most representative of said success of said plurality of recipients;

(f) repeating step (e) until said representative acknowledges successful receipt of said plurality of data units.

The reference Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the

communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 18,**

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients (Figs. 1 and 2) comprising the steps of: (a) broadcasting said plurality of data units to said recipients (col. 3, line 47-49); (b) a first recipient identifying unreceived data following a broadcast of said data; (c) rebroadcasting said plurality of data units to said recipients; (d) another recipient identifying unreceived data following said rebroadcast of said data; (e) comparing said unreceived data identified by said recipient and said unreceived data identified said

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another recipient; (Fig. 2, col. 6, line 12-col. 7, line 30); (h) polling at least one said recipient to identify data units not successfully received by said recipient; and, (i) thereafter, transferring said unreceived data units to said recipient by point-to-point communication. (col. 3, line 60- col. 4, line 17, col. 3, line 25-59).

Birdwell fails to teach (f) designating as representative recipient a recipient reporting unreceived data most typical of unreceived data reported by said recipients;(g) broadcasting said data units until said representative acknowledges successful receipt of said plurality of data units;

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.",

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and “Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.”).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 19,**

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients (Figs. 1 and 2) comprising the steps of: (b) broadcasting a data unit to said plurality of recipients; (c) repeating step (b) until said representative recipient acknowledges successful receipt of said data unit; (e) polling at least one said plurality of recipients to identify data units not successfully received by polled ones of said plurality of recipients; and (f) transferring unreceived said data units by point-to-point communication. (col. 3, line 25 through col. 4, line 17)

Birdwell fails to teach (a) designating a representative recipient; and (d) repeating steps (b) and (c) for a plurality of data units.



Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have

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the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 20,**

Keeping in mind the teachings of Birdwell, Birdwell teaches (a) broadcasting a plurality of data units to said recipients; (b) polling at least one said recipient to establish success in receiving said data units; (col. 3, line 60-col. 4, line 17) .

Birdwell fails to teach (c) designating as said representative said recipient having said success most representative of said success of said plurality of recipients.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.",

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and “Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.”).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 22,**

Birdwell teaches the method of claim 19 further comprising the steps of: (a) a first recipient reporting success in receiving said data units from said first broadcast; and (b) another recipient reporting success in receiving said data units from another broadcast. (fig. 2, col. 6, line 12-col. 7, line 30)

**Referring to claim 23,**

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients comprising the steps of: (a) broadcasting a plurality of data units to said recipients (col. 3, line 47-49); (b) polling at least one said recipient to establish success in receiving said data units; (d) broadcasting a data unit to said

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recipients; (g) polling at least one said recipient to identify data units not successfully received by said recipient', and, (h) thereafter, transferring said unreceived data units to said recipient by point-to-point communication. 9col. 3, line 25- col. 4, line 17)

Birdwell fails to teach (c) designating as a representative said polled recipient having said success most representative of said success of said plurality of recipients; (e) repeating step (d) until said representative acknowledges successful receipt of said data unit; (f) repeating steps (d) and (e) until said representative acknowledges successful receipt of said plurality of data units.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the graph of FIG. 2.",

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and “Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.”).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

**Referring to claim 24,**

Birdwell teaches a method of transferring a plurality of data units from a distributor to a plurality of recipients (Figs. 1 and 2) comprising the steps of: (a) broadcasting said plurality of data units to said plurality of recipients (col. 3, line 47-49); (b) identification of unreceived data by a first recipient following said broadcast of said data; (c) rebroadcasting said plurality of data units to said plurality of recipients; (d) identification of unreceived data by another recipient following said rebroadcast of said data; (e) comparing said unreceived data identified by said first recipient and unreceived data identified by said another recipient; (i) polling at least one said recipient to identify data units not successfully received by said plurality of recipients; and (j) thereafter,

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transferring unreceived data units by point-to-point communication. (Fig. 2, col. 6, line 12-col. 7, line 29, col. 3, line 60-col. 4, line 17).

Birdwell fails to teach (f) designating as representative recipient a recipient reporting unreceived data most typical of unreceived data reported by all said plurality of recipients;(g) broadcasting a data unit until said representative acknowledges successful receipt of said of data unit;(h) repeating step (g) for said plurality of said data units.

Iwamura teaches the communication network construction method wherein how the group is formed and how a representative is selected, what communication capabilities the grouped devices have and the group representative has, thereby it teaches the claimed elements in the context of the broadcasting. (col.14, lines 32-45, col. 13, lines 58-59, "This graph is considered to represent the status of the network at a given time point", lines 63 thru col. 14, lines 1-50, Note: "First, in order to produce the graph of FIG. 2, each device broadcasts a device message. The device message includes the information on the device broadcasting it and the information on the communicable devices determined taking the device messages from other devices into consideration. Each device judges whether it can or cannot communicate with other devices by receiving a device message from them. Further, the information on the communicable devices thus identified is broadcast with a device message, upon receipt of which each device can collect the data required for constructing the

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graph of FIG. 2.", and "Similarly, the device message exchanged in each group is the one relating to the devices belonging to the particular group.").

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to enhance the teachings of Birdwell by the capabilities of the representative device of Iwamura such that the representative device alone will have to communicate with the devices in the group as well as the other representative devices in the network such as any other broadcasting device. The representative devices not only reduce the device messages providing the configuration management information but also, in the handshake between the devices of different groups, have the function to consolidate the response messages and to prevent the increase in the number of messages that a device is required to receive at a time, as explained by Iwamura.

### ***Conclusion***

**Examiner's note:** Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abp

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